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Recommendations for Renovating Old Conservation Reserve Program (CRP) Cover to Native CRP Mixes and Dense Cover Best Suited to Wildlife

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Introduction

During CRP Sign-up 15, the highest environmental benefits points were given to cover establishment practices that included seeding mixes of native or introduced species best suited for wildlife. To receive the maximum points possible, many applicants selected those practices during the sign-up. In a number of cases, expiring CRP land with covers that consisted predominately of single species of introduced grasses was offered and the applicant agreed to reestablish it to the higher point value cover.

This technical paper is meant to provide guidance to field offices on techniques that provide reasonable chances for successfully completing the renovation process in a reasonable time span. It is based on the best experience and recommendations of a number of Natural Resources Conservation Service (NRCS) staff, industry specialists, and South Dakota State University researchers.

Methods

Successful establishment of new CRP cover will first require destruction of the existing cover. Smooth bromegrass will be one of the most difficult cool season species to control and intermediate wheatgrass would be treated using the same methods. The odds of successfully controlling these grasses will be improved first by setting them up; that is, by bringing the grasses to a vulnerable stage of growth and then killing them with a sequence of properly-timed herbicide applications.

The setup is accomplished by removing the current year's growth and, in some cases, previous years' residue from the field. This should be completed during the month of July preceding the year the new cover is to be planted. Mowing, raking, and removing the material from the field is the recommended method. Windrowing by cutting close to the ground and removing the material would be acceptable as would cutting with a rotary mower. Heavy grazing that removes and tramples plant material would be an effective method. If conditions are correct to carry fire, prescribed burning would also work, however, extreme caution must be practiced.

CRP requirements must be taken into consideration when haying, grazing, or burning the CRP. These activities are considered part of seedbed preparation for the new planting; they would need to be included in the Conservation Plan of Operations. Consult with the Farm Service Agency concerning disposal of the material.

The purposes of these setup activities are threefold:

1. The first is to stimulate regrowth of the grass.
2. The second is to open up the plant canopy to ensure maximum coverage of the regrowth during the subsequent herbicide application operations.
3. The third is to facilitate next year's seeding operation by removing the excess plant material.

The end product of the setup activities should be a regrowth of bromegrass or intermediate wheatgrass that is at least eight inches tall by the end of September and is in a physiological stage that is highly vulnerable to being killed with glyphosate herbicide.

After the setup process, the first herbicide application needs to be completed in the fall of the year prior to the first hard freeze. Glyphosate (Roundup) herbicide should be applied at the rate of 1 qt./A in 10 gallons of water. Roundup's effectiveness is increased by ammonium sulfate, therefore 8 1/2 lbs. should be added per 100 gallons of spray mix prior to adding the Roundup. The spray mix should be applied with flat fan or low volume flood nozzles at 25-35 psi. pressure at less than 10 mph ground speed.

To be effective, glyphosate herbicide must be translocated (moved) by the target plant to its roots. By spraying in the fall of the year prior to the first hard freeze (usually the end of September in South Dakota), the chances of translocation to the roots are increased. At that time of the year, the grass plant will be building root reserves by moving nutrients to its roots and, when sprayed, will also translocate the herbicide to its roots. Optimum conditions for glyphosate effectiveness include 8 inches or more of regrowth and daytime temperatures of 60 degrees or above.

Many old CRP fields are quite rough from pocket gopher mounds making travel difficult. The participants may choose to level these mounds with one or two light disking operations. The effectiveness of the grass kill would also be improved with this tillage operation. It is important to wait at least 7, and preferably 14 days, after spraying before any tillage operation to give the herbicide time to be translocated to the roots.

A second application of glyphosate herbicide will probably be needed the following spring. Again, optimum conditions for control of the grass will include 8 or more inches of regrowth and daytime temperatures of 60 degrees or above. Application rates and methods should be the same as those used for the initial fall application.

Because of the later seeding date with warm season CRP cover species, more time is available in the spring for optimum conditions to occur for control of spring regrowth of the old CRP cover. Ideally, optimum conditions for grass control with glyphosate will occur by mid to late May at which time spraying should be completed then. The seeding operation should be delayed for at least seven days to again allow the plant time to translocate the herbicide to the roots. Seeding of warm season CRP cover should be completed by June 15.

Successful establishment of cool season CRP plantings is improved with early spring planting. However, optimum conditions for control of any spring regrowth of the old CRP cover will generally not be achieved ahead of the optimum seeding date. To complete spring planting, a trade-off between optimum regrowth control and optimum seeding dates must be made. If the optimum conditions for control are achieved by May 15 and soil moisture conditions are favorable for fast germination and emergence of the new CRP cover, the spraying should be completed. Seeding should be delayed for at least three days under these circumstances.

If conditions are not correct for control of the regrowth by May 15, consider delaying the spraying operations until optimum conditions are achieved, maintain weed control through the summer, and plant during the August seeding period.

Tillage the year of seeding is not recommended. Tillage will only serve to loosen the seedbed making seeding depth control more difficult and drying out the surface of the soil, potentially reducing seed germination.

Glyphosate herbicide has no residual effect and is only effective on green growing plants. If no green growing plants exist in the field at spring treatment time, there is no need to spray. If conditions were optimum for the fall application, a high level of control may have been achieved. If that is the case, only spot applications at the full rate may be needed to control areas that may have been skipped. A reduced rate of herbicide may be needed to control emerged annual weeds and new seedlings of the old cover.

In a number of cases, applicants to the CRP program submitted land that was originally planted to a mixture of intermediate wheatgrass and alfalfa and the stand now has less than 20 percent alfalfa. To receive the higher Environment Benefits Index points, the alfalfa need to be replaced. By following the same steps used to set up and destroy the old CRP cover during the fall of the year as described above, the intermediate wheatgrass can be suppressed and thinned to the point that alfalfa planted the following spring will have a chance to become established. The only difference is that the fall glyphosate application rate should be reduced to one pint, and the spring application should be skipped entirely. The alfalfa should be planted into the suppressed intermediate wheatgrass at the normal spring planting time.

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